



Algemene gegevens	
TKI-Nummer	AF-EU-17041
Titel	VIVALDI
Topsector (A&F of T&U)	A&F
Projectleider (onderzoek)	Pauline Kamermans
Werkelijke startdatum	1 maart 2016
Werkelijke einddatum	1 maart 2020
Korte omschrijving inhoud	<p>VIVALDI will contribute to the implementation of European Union policy concerning aquatic animal health, including specific measures to control increased mortality in Pacific oyster in connection with the detection of a herpes virus (OshV-1). The goal of the Dutch partners in VIVALDI is to estimate genetic parameters for disease resistance or tolerance in the Pacific oyster and investigate the impact of nutritional factors on a breeding program for cupped oysters at commercial hatchery level. Using DNA parentage assignment in mixed families Genetic X Diet interaction of survival is estimated. This is done in controlled and field conditions. Pedigree will be established by using SNP panels developed by other partners in the project. Other parts of VIVALDI that are of interest for the Netherlands are Studying pathogen diversity and improving tools for better surveillance, Understanding marine bivalve functional response for alternative methods of prevention and treatment, Microbiota as Bioindicators of bivalve Health, Monitoring of key factors associated with surviving capacity of bivalve during mortality events, Effects of environmental parameters and environmental stressors on pathogen transmission and related mortality outbreaks, Role of plankton as vectors and consequences on pathogen physiology, and impact on zootechnology and epidemiology, Pathogen dissemination and disease transmission modelling in marine ecosystems, Disease management measures and biosecurity,</p> <p>The overarching goal of VIVALDI is to increase the sustainability and competitiveness of the European shellfish industry by improving the understanding of bivalve diseases and by developing innovative solutions and tools for the prevention, control and mitigation of the major pathogens affecting the main European farmed shellfish species: Pacific oyster (<i>Magellana gigas</i>), mussels (<i>Mytilus edulis</i> and <i>M. galloprovincialis</i>), European flat oyster (<i>Ostrea edulis</i>), clams (<i>Venerupis philippinarum</i>) and scallops (<i>Pecten maximus</i>). The project addresses the most harmful pathogens affecting either one or more of these shellfish species: the virus Ostreid herpesvirus 1 (OshV-1), Vibrio species including <i>V. aestuarianus</i>, <i>V. splendidus</i>, <i>V. harveyi</i> and <i>V. tapetis</i>, as well as microeukaryotes such as the parasites <i>Perkinsus olseni</i> and <i>Bonamia ostreae</i>.</p>

uitvoerende partijen	
betrokken kennisinstellingen	1. INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER (IFREMER), France

	<ol style="list-style-type: none"> 2. CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS), France 3. AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC), Spain 4. INSTITUT DE RECERCA I TECNOLOGIA AGROALIMENTARIES (IRTA), Spain 5. UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK (UCC), Ireland 6. MARINE INSTITUTE (MI), Ireland 7. NATIONAL UNIVERSITY OF IRELAND (NUI Galway), Ireland 8. UNIVERSITA DEGLI STUDI DI GENOVA (UNIGE), Italy 9. UNIVERSITA DEGLI STUDI DI PADOVA (UNIPD), Italy 10. UNIVERSITA DEGLI STUDI DI TRIESTE (UNITS), Italy 11. NOFIMA AS (NOFIMA), Norway 12. HAVFORSKNINGSINSTITUTTET (IMR), Norway 13. STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK (DLO), Netherlands (WMR, WLR, WBR) 14. THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS (CEFAS), United Kingdom 15. THE QUEEN'S UNIVERSITY OF BELFAST (QUB), United Kingdom 16. ALFRED-WEGENER-INSTITUT HELMHOLTZ- ZENTRUM FUER POLARUND MEERESFORSCHUNG (AWI), Germany 17. DANMARKS TEKNISKE UNIVERSITET (DTU), Denmark 18. THE UNIVERSITY OF LIVERPOOL (ULIV), United Kingdom
overige partijen	<ol style="list-style-type: none"> 1. SYNDICAT DES SELECTIONNEURS AVICOLES ET AQUACOLES FRANCAIS (SYSAAF), France 2. LABOGENA DNA (LABOGENA), France 3. ATLANTIUM TECHNOLOGIES LTD (ATLANTIUM), Israel

Planning en voortgang	
<p>Loopt het project volgens planning? Indien er wijzigingen zijn t.o.v. de plannen, geef hierop een toelichting. Indien er knelpunten zijn, geef hiervan een korte beschrijving</p>	<p>The project provides an optimisation of the breeding program for cupped oyster. In addition, other parts of the VIVALDI project will give a risk ranking model and optimal husbandry practices and guidelines to reduce mortalities caused by diseases.</p> <p>In 2017, an experiment was carried out to estimate Genetic X Diet interaction of survival of the Pacific oyster under different hatchery diets in experimental and field conditions in the Netherlands, and to investigate the impact of nutritional factors on breeding programs at commercial hatchery level. 38 families were produced (DNA of parents sampled) and reared in 2 groups (standard diet and test diet). Then spat was reared with standard diet, but groups were kept separate. Next, 1000 spat per group (DNA sampled before and after exposure) were exposed experimentally to the OshV-1 virus or kept in a control set-up under laboratory conditions. At the same time, 80.000 spat per group were exposed in the field for natural infection during summer (DNA sampled before and after exposure). Pedigree is established by using SNP panels developed in VIVALDI. DNA samples are presently being processed by Labogena.</p> <p>In 2018, genetic parameters will be estimated using different statistical models and results will be interpreted in the context of the breeding programme. In addition, new samples will be taken after the next exposure to the virus in the field. Due to late availability of AF funding in 2017 the budget will be used for activities in 2018.</p>

Highlights

An experiment was carried out to estimate Genetic X Diet interaction of survival of the Pacific oyster when exposed to Ostreid herpesvirus 1 (OsHV-1) under different hatchery diets in experimental and field conditions in the Netherlands. Both challenge experiments were successful. Survival of Pacific oysters was lower in the groups exposed to OsHV-1 in the laboratory. And in the field survival of Pacific oysters was low after natural exposure. DNA samples are presently being processed. Results will be used to optimise breeding programmes at commercial hatchery level including the impact of nutritional factors.

Aantal opgeleverde producten					
Wetenschappelijke artikelen	Rapporten	Artikelen in vakbladen	Inleidingen/ workshops/ invited lectures	Aangevraagde octrooien /first filings	Spin-offs (*)
Blanco A, K Janssen, B. Morga, P. Kamermans (in prep) Estimate genotype by environment interaction for survival in the Pacific oyster (<i>Magellana gigas</i>) when exposed to Ostreid herpesvirus 1 (OsHV-1)	Deliverable 3.3 Estimation of genetic parameters and correlations in <i>M. gigas</i> (in prep)		General assembly VIVALDI project 2016 (Nantes), 2017 (L'Ampolla), 2018 (Weymouth)	geen	Berokkenheid bij het fokprogramma van de hatchery Roem van Yerseke

(*) Hiermee wordt bedoeld: contractonderzoek dat voortkomt uit dit project, aanvullende subsidies die zijn verkregen en spin-off bedrijvigheid.

Verwacht u het komende jaar een octrooiaanvraag?	nee
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Bijlage: Titels van de producten of een link naar de producten op een openbare website

Link naar samenvatting Kennis Online:

Omdat het vanwege inzet van vrij vallend budget vanwege klasritmewijzing bij andere PPS-en slechts om de financiering van 1 jaar gaat is er geen info op KennisOnline geplaatst.